

State Load Despatch Center, Airoli (MSETCL) Statement I
Daily system Report for 03/Mar/2022 THURSDAY

I GENERATION (MUs)			II EXCHANGES (MUs)		
A) MSPGCL	Daily	Monthly	E) InterState Exchanges	Daily	Monthly
1) Thermal	151.791	447.767	1) Gujrat	-4.063	-15.853
2) Hydro	16.184	49.932	2) Madhya Pradesh	9.126	25.104
3) Gas	3.539	10.674	3) Chattisgarh	6.440	19.870
Total MSPGCL	171.514	508.373	4) Maharashtra	171.035	509.891
B) 1) APLM	74.717	224.054	5) Goa (Amona)	-1.043	-3.520
2) JSWEL	19.689	57.337	Total	181.495	535.492
3) VIPL	0.000	0.000	a) Mumbai Schedule	29.593	85.702
4) RPL(AMT)	23.036	73.784	b) Mumbai Drawl	31.097	92.885
5) SWPGPL	6.324	18.941	c) MSEDCL Bilateral *	90.417	261.056
6) Other IPP	39.082	120.872	Include PX	0.000	0.000
7) PGPL	0.000	0.000	d) Mumbai Bilateral *	29.593	85.702
C) 1) TPCL Thermal	11.512	32.072	Include PX	0.000	0.000
2) TPCL Hydro	4.913	12.256	Standby	0.000	0.000
3) TPCL Gas	0.000	0.000	H) ENERGY CATERED (MUs)		
4) AEML Thermal	8.648	24.979	1) MSEDCL	492.485	1468.015
D) STATE			2) Mumbai Discoms	56.170	162.193
1) Thermal	334.799	999.806	3) Other Discoms	8.677	26.136
(A1+C1+C4+(B1-B6))			TOTAL STATE	557.332	1656.344
2) Hydro	21.097	62.188			
(A2+C2)					
3) Gas	3.539	10.674			
(A3+B7+C3)					
4) Wind	8.269	23.337			
6) SOLAR	8.133	24.846			
TOTAL STATE	375.837	1120.851			

* Displayed for information, not added in total.

DETAILS OF MAHARASHTRA STATE PEAK DEMAND(MW) Statement II

PARTICULARS	A. Morning Peak at 12 Hrs	B. Day Peak at 13 Hrs	C. Evening Peak at 20 Hrs	D. Night Minimum at 1 Hrs
MSPGCL Thermal	6447	6372	6628	5940
MSPGCL Hydro	389	322	1661	286
MSPGCL Gas	141	139	154	148
MSPGCL Total Generation	6977	6833	8443	6374
Central Sector Receipt	9729	8899	6059	7043
WIND	390	261	313	343
CPP / IPP Thermal	6942	6824	6896	6653
CPP / IPP Gas	0	0	0	0
SOLAR	1212	1220	0	0
Exchange with Mumbai	-1895	-1510	-1208	-1207
MSEDCL DEMAND MET	22957	22139	20105	18896
Load Shedding	0	0	0	0
MSEDCL DEMAND	22957	22139	20105	18896
TPCL GENERATION	689	906	949	441
AEML GENERATION	283	441	501	284
MUMBAI DEMAND	2867	2857	2658	1932
OTHER DISCOM DEMAND	398	388	398	310
STATE DEMAND MET	26222	25384	23161	21138
STATE DEMAND	26222	25384	23161	21138
Frequency (Hz)	50.02	50.00	49.97	49.99

FREQUENCY PARTICULARS

MAXIMUM FREQ.	MINIMUM FREQ.	AVERAGE FREQ.	FREQ. BELOW 49.4 Hz
50.31 Hz at 06:01 Hrs	49.78 Hz at 18:47 Hrs	50	0 % of Time(min)

Note : The report is based on Operational Data and is for statistical purpose only.

Daily and Progressive Generation,Maximum,Minimum for 03/Mar/2022

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Koradi				
Unit 6	4.43	12.86	192	170
Unit 7	0.00	0.00	0	0
Unit 8	12.11	38.49	602	430
Unit 9	13.43	38.81	605	546
Unit 10	8.94	26.37	515	0
Total	38.90	116.52		
Bhusawal				
Unit 3	0.00	0.00	0	0
Unit 4	10.15	28.42	475	395
Unit 5	1.72	16.69	285	0
Total	11.87	45.12		
Parli				
Unit 6	3.97	9.25	227	150
Unit 7	3.87	12.58	220	140
Unit 8	3.15	3.15	170	21
Total	10.99	24.98		
Chandrapur				
Unit 3	4.21	12.74	190	120
Unit 4	4.12	12.06	175	170
Unit 5	7.28	7.44	325	243
Unit 6	0.00	7.34	0	0
Unit 7	8.79	27.27	400	293
Unit 8	11.29	33.34	475	462
Unit 9	10.41	27.02	450	420
Total	46.11	127.20		
Paras				
Unit 3	5.85	17.16	255	199
Unit 4	5.64	16.83	249	198
Total	11.49	33.98		
Khaparkheda				
Unit 1	3.27	10.12	150	130
Unit 2	3.60	10.93	160	140
Unit 3	3.87	12.80	175	137
Unit 4	3.96	12.27	177	153
Unit 5	10.34	31.39	450	410
Total	25.05	77.50		
Nasik				
Unit 3	0.00	0.00	0	0
Unit 4	3.96	11.98	191	120
Unit 5	3.41	10.48	166	120
Total	7.38	22.46		
Uran				
All Units	3.54	10.67	159	137
Total	3.54	10.67		
PGPL				
Unit 1	0.00	0.00	0	0
Unit 2	0.00	0.00	0	0
Total	0.00	0.00		
PENCH (MS)				
Pench (MS)	0.26	0.53	40	0
Total	0.26	0.53		
Koyna				

Generating unit	Generation			
	Daily (Mus)	Monthly (Mus)	Max (MW)	Min (MW)
Stage 1-2	4.12	11.54	400	35
Stage 4	4.00	14.21	733	0
Stage 3	1.61	5.47	240	0
Total	9.72	31.22		
Hydro				
KDPH	0.43	1.30	18	18
VTRNA	0.00	0.00	0	0
TILLARI	0.00	0.29	0	0
BHIRA T.R.	0.20	0.64	70	0
SMLHY_PTN	5.57	15.95	240	220
GHATGHAR	0.00	0.00	0	0
Total	6.20	18.18		
Wind				
Total	8.27	23.34	0	0
Total	8.27	23.34		
CPP				
APML(Mus)	74.72	224.05	0	0
JSWEL(Mus)	19.69	57.34	0	0
VIPL(Mus)	0.00	0.00	0	0
RPLAMT-Mus	23.04	73.78	0	0
SWPGPL-Mus	6.32	18.94	0	0
Other(Mus)	39.08	120.87	0	0
Total	162.85	494.99		
SOLAR				
Total	8.13	24.85	0	0
Total	8.13	24.85		
Tata				
Trombay 5	7.88	21.90	422	269
Trombay 6	0.00	0.00	0	0
Trombay 7A	0.00	0.00	0	0
Trombay 7B	0.00	0.00	0	0
TATA Hydro	4.91	12.26	422	0
Trombay 8	3.63	10.17	223	131
Total	16.42	44.33		
AEMIL				
DTPS U-1&2	8.65	24.98	501	280
Total	8.65	24.98		

* Infirm Power			Summary			Summary		
Particulars	Daily (Mus)	Monthly	Particulars	Daily (Mus)	Monthly (Mus)	Particulars	Daily (Mus)	Monthly (Mus)
			MSPGCL Thermal	151.79	447.77	MSPGCL Total	171.51	508.37
			MSPGCL Thml+Gas	155.33	458.44	Koyna 1,2 & 4 Total	8.12	25.75
			MSPGCL Hydro	16.18	49.93	State Total	375.84	1120.85

State Load Despatch Center,Airoli (MSETCL)

Hourly Load Data As on 03/Mar/2022

Annexure-2

TIME SR. NO.	MSPGCL GEN.			TOTAL	WIND	CPP / IPP		SOLAR	CS SHARE	CS RECPT	Mum. NET EXCH.	MSEDC L DEM. MET	LOAD SHED DING	MSEDC L DEM. WITH LS	MUMBAI DEMAND	OTHER DISCOM DEMAND	STATE DEMAND	FREQ. (Hz)
	THM	HY	GAS			THM	GAS											
1	5940	286	148	6374	343	6653	0	0	6989	7043	-1207	18896	0	18896	1932	310	21138	49.99
2	6011	300	147	6458	324	6623	0	0	7220	7204	-1113	19205	0	19205	1798	291	21294	49.97
3	6156	289	158	6603	280	6851	0	0	7062	6801	-1014	19238	0	19238	1701	283	21222	49.98
4	6075	297	148	6520	382	6624	0	0	7306	7062	-952	19337	0	19337	1638	299	21274	49.99
5	6072	294	159	6525	373	6541	0	0	7603	7453	-962	19611	0	19611	1644	319	21574	50.06
6	6339	722	149	7210	471	6810	0	0	7285	7284	-1031	20416	0	20416	1749	328	22493	50.01
7	6099	1236	159	7494	534	6892	0	7	7383	7126	-834	20885	0	20885	1900	334	23119	50.02
8	6098	1616	150	7864	590	7014	0	138	6991	7406	-814	21839	0	21839	2089	359	24287	50.04
9	6221	817	147	7185	545	7004	0	519	7979	7729	-1026	21569	0	21569	2348	387	24304	50.01
10	6427	437	154	7018	559	6931	0	801	8464	8371	-1090	22192	0	22192	2632	398	25222	50.00
11	6397	565	143	7105	513	6730	0	1014	8961	9297	-1509	22751	0	22751	2814	399	25964	50.01
12	6447	389	141	6977	390	6942	0	1212	9430	9729	-1895	22957	0	22957	2867	398	26222	50.02
13	6372	322	139	6833	261	6824	0	1220	9184	8899	-1510	22139	0	22139	2857	388	25384	50.00
14	6277	458	137	6872	228	6616	0	1068	9125	9238	-1748	21914	0	21914	2712	360	24986	50.06
15	6302	616	138	7056	174	6592	0	855	9306	9334	-1821	21814	0	21814	2734	376	24924	50.00
16	6360	562	139	7061	149	6594	0	707	9395	9247	-1810	21557	0	21557	2764	391	24712	49.93
17	6459	598	150	7207	109	6629	0	440	8540	8498	-1747	20745	0	20745	2750	391	23886	50.01
18	6543	1117	141	7801	135	6707	0	150	6819	6575	-1355	19621	0	19621	2701	392	22714	49.98
19	6524	1468	143	8135	255	6780	0	2	6123	6215	-1168	19799	0	19799	2669	420	22888	49.96
20	6628	1661	154	8443	313	6896	0	0	6231	6059	-1208	20105	0	20105	2658	398	23161	49.97
21	6584	875	145	7604	326	6912	0	0	6063	6151	-1272	19335	0	19335	2509	386	22230	50.01
22	6479	370	146	6995	313	6870	0	0	6287	6310	-1413	18706	0	18706	2352	369	21427	50.01
23	6483	377	157	7017	324	6875	0	0	6228	6344	-1317	18882	0	18882	2230	361	21473	49.96
24	6498	512	147	7157	378	6938	0	0	6180	6120	-1281	18974	0	18974	2122	338	21434	50.00
MUs	151.79	16.18	3.54	171.51	8.27	162.85	0.00	8.13	182.15	181.49	-31.10	492.49	0.00	492.49	56.17	8.68	557.33	50.00

NOTE : ALL VALUES IN MW

Mumbai Net Exch is shown with reference to MSETCL system and (-) sign indicates MSETCL periphery to Mumbai system.

State Load Despatch Center,Airoli (MSETCL) Statement-VI
Details of Generating Unit Outages/Trippings for 03/Mar/2022

Position as on 6.30 Hrs of 04/Mar/2022

Generating Company	Name of Generating Unit	Capacity	Tripped Date	Tripped Time	Sync.Date	Sync. Time	Reason of Outage	Expected Date
PLANNED OUTAGE								
MSPGCL	Koyna Unit 5	80	20/12/2021	08:40		Continued.	Annual Overhaul	
MSPGCL	Nasik Unit 3	210	26/01/2022	20:26		Continued.	Annual Overhaul	
FORCED OUTAGE								
IPP	SWPGPL U-1	135	16/02/2016	17.09		Continued.	No PPA.	
PGPL	PGPL U1	262	07/02/2017	17.30		Continued.	No Schedule (NO PPA)	
PGPL	PGPL U2	126	07/02/2017	17.30		Continued.	No Schedule.(NO PPA)	
IPP	IEPL Unit 1	270	28/08/2018	21.26		Continued.	No PPA	
IPP	VIPL U-1	300	29/12/2018	00.30		Continued.	Coal Shortage. (NO PPA From 20.05.2019)	
IPP	VIPL U-2	300	17/01/2019	00.15		Continued.	Coal shortage.(NO PPA From 20.05.2019)	
CENT.SECTOR	Tarapur 1	160	08/01/2020	10:37		Continued.	Refueling. While refueling preparation, some repair works identified which are being executed before refueling.	31/03/2023
MSPGCL	Uran Unit 7	108	25/05/2020	12.51		Continued.	Turbine Blade Failure	
CENT.SECTOR	Tarapur 2	160	13/07/2020	04:38		Continued.	For cleaning of clogged basket strainer of cooling water system due to heavy ingress of debris from sea. The outage extended for repair and re-fueling.	31/03/2023
MSPGCL	Koradi Unit 7	210	27/04/2021	20.03		Continued.	Retired (04/08/2021 At 00.00)	
IPP	JSW (J) U4	300	14/02/2022	16:08		Continued.	No Schedule	
IPP	RPL(AMT) U-3	270	16/02/2022	00:00	03/03/2022	18:28	Coal Shortage	
MSPGCL	Ghatghar Unit-1	125	17/02/2022	21:55		Continued.	SFC HEAVY FAULT	
MSPGCL	Ghatghar Unit-2	125	17/02/2022	21:55		Continued.	SFC HEAVY FAULT	
MSPGCL	Bhusawal Unit 3	210	20/02/2022	22:03	04/03/2022	00:17	Coal Shortage	
MSPGCL	Uran Unit 6	108	21/02/2022	00:37		Continued.	Gas shortage	
MSPGCL	Uran Unit A0	120	21/02/2022	21:57		Continued.	Gas shortage	
MSPGCL	Uran Unit 5	108	21/02/2022	21:57		Continued.	Gas shortage	
TPC-G	Trombay 7B	60	23/02/2022	02:12		Continued.	Gas shortage	
MSPGCL	Parli Unit 8	250	24/02/2022	01:00	03/03/2022	00:20	Coal Shortage	
IPP	SWPGPL U-4	135	25/02/2022	16:47		Continued.	Turbine Vibration	
MSPGCL	Chandrapur Unit 6	500	02/03/2022	00:16		Continued.	turbine bearing no.7 vibration high	
MSPGCL	Koradi Unit-10	660	02/03/2022	09:49	03/03/2022	02:15	Generator preheater problem	
MSPGCL	Koyna STG-IV Unit-4	250	03/03/2022	06:00	03/03/2022	21:05	BREAK PAD ASSEMBLY JAM	
MSPGCL	Bhusawal Unit 5	500	03/03/2022	06:05		Continued.	Flame Failure	
IPP	RPL(AMT) U-5	270	03/03/2022	12:00		Continued.	Bottom Ash problem.	
MSPGCL	Bhusawal Unit 3	210	04/03/2022	04:05		Continued.	Reason Awaited	

State Load Despatch Center, Airoli (MSETCL)
Details of Line outages/Tripping for 03/Mar/2022

Statement-VII

Position as on 6.30 Hrs of 04/Mar/2022

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
765 KV MAINBAY Outages/Tripping							
MAIN BAY (710) OF TIRORA CKT - 1 @ KORADI 3	IntraState	03/03/2022	09:49	03/03/2022	13:01	PO	Annual Maintenance of Bay Equipments.
400 KV TIEBAY Outages/Tripping							
TIE BAY - 403 OF 400/220/33 KV 500MVA ICT - 1 @ KHAPARKHEDA	IntraState	03/03/2022	10:50			EO	Replacement of Female Contact of R Ph 89 A Bus Isolator of 400/220/33 kV 500 MVA ICT 1 Tie Bay 403 by Hotline Unit Nagpur
400 KV LINE Outages/Tripping							
KARAD - SOLAPUR (PG)	InterState	22/02/2022	08:50				Commissioning of 400 kV 80 MVAr Kanohar make line shunt reactor with allied equipments under LE scheme
CHANDRAPUR GCR - CHANDRAPUR HVDC - 1	IntraState	01/03/2022	09:52			PO	1) Capital overhauling and servicing of Mechanism Drive, SF6 gas monitoring assembly, Hydraulic pressure monitoring assembly and Poles and Interrupters. 2) Measurement of Timing, CRM and DCRM of CB. 3) Maintenance and alignments of PG-1 and PG-2 Isolators.
TBC @ NEW KOYNA	IntraState	01/03/2022	10:15	03/03/2022	16:18	PO	Bus insulator string replacement work under scheme at the section of 1) 400KV BC & TBC 2) 400KV spare bay 3) Erection of hanger for pantograph isolator of newly erection of ICT bay
BUS 'A' @ PADGHE	IntraState	02/03/2022	12:00	03/03/2022	16:30	PO	1) 315MVA ICT -3 A bus all phase Hanger Rod replacement work by Hot line method.
400 KV ICT Outages/Tripping							
400/220/33 KV 500MVA ICT - 2 @ DEEPNAGAR	IntraState	02/03/2022	11:46	03/03/2022	19:01	PO	FOR O/H OF 220kV ICT NO. II (IV) own CB.
220 KV LINE Outages/Tripping							
MULUND - GIS BHANDUP	IntraState	29/01/2022	15:44			T	cABLE FAULT
EKLAHARE (OCR) - NAVASARI CKT - 1	IntraState	22/02/2022	10:16	03/03/2022	20:38	PO	GETCO WORK. SHIFTING OF EXI. 220KV NAVSARI - NASIK LINE NO 1 & 2 (D/C)CROSSING AT NHSRCL PRO.CH:- 233/720 (EXI. CROSSING CH:- 233/895)
EKLAHARE (OCR) - NAVASARI CKT - 2	IntraState	22/02/2022	10:17	03/03/2022	23:08	PO	GETCO WORK. SHIFTING OF EXI. 220KV NAVSARI - NASIK LINE NO 1 & 2 (D/C)CROSSING AT NHSRCL PRO.CH:- 233/720 (EXI. CROSSING CH:- 233/895)
HINJEWADI 2 - PEGASUS	IntraState	24/02/2022	10:40			PO	1. (a) Dismantling WT with disc insulator strings � 4 No , (b) Dismantling CC/ CC structure � 4 No. (c) Dismantling LA structure � 6 No. 2. Erection of LA and BPI 3. Scaffolding for OET 4. Outdoor End Termination 5. Testing and commissioning 6. Jumper connections High bus - BPI - OET-LA (Work at 220kV Hinjewadi II & Pegasus S/s)
TATA BORIVLI MSETCL BORIVLI - 5	IntraState	25/02/2022	09:18			PO	Project work for Shifting of line on new GIS bay and HV test of new GIS

State Load Despatch Center, Airoli (MSETCL)
Details of Line outages/Trippings for 03/Mar/2022

Statement-VII

Position as on 6.30 Hrs of 04/Mar/2022

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
KHARGHAR - TOPWORTH	IntraState	26/02/2022	10:33			PO	Erection of inline tower at Proposed Khandeshwar GIS, Erection of inline tower and Preparation of Cable End Termination at Proposed Panvel Timber Market
KHARGHAR - TSS PANVEL	IntraState	26/02/2022	11:31			PO	Erection of inline tower at Proposed Khandeshwar GIS, Erection of inline tower and Preparation of Cable End Termination at Proposed Panvel Timber Market
PADGHE - WADA	IntraState	28/02/2022	10:01			PO	1. 245kV CGL make CB pole overhauling work 2. Retrofitting of master 86 relay for MTAMC work
POPHALI - KDPH	IntraState	02/03/2022	12:05	03/03/2022	12:20	T	Tripped on Distance Protection.
MANMAD - MALEGAON CKT - 1	IntraState	03/03/2022	10:21	03/03/2022	11:45	PO	Measurement of C & Tan Delta Values, Timing & CRM of CB & misc maintenance work.
MANMAD - MALEGAON CKT - 2	IntraState	03/03/2022	11:53	03/03/2022	13:48	PO	Measurement of C & Tan Delta Values, Timing & CRM of CB & misc maintenance work.
TROMBAY - DHARAVI 9	IntraState	03/03/2022	14:00	04/03/2022	00:12	T	Line side GOD melted and B ph LA shattered
ONI KHAREPATAN LINE	IntraState	04/03/2022	09:13			PO	For chemical washing of line insulators.
220 KV ICT Outages/Trippings							
220 / 110 / 22kV 250 MVA ICT 1 @ SALSETTE	IntraState	12/10/2020	11:35			T	Tripped due to Grid disturbance.
220/22 KV 50 MVA PTR 1 @ KANDALGAON	IntraState	14/12/2021	16:55			EO	For dismantailing said 50MVA T/f 1 at 220 kV K'gaon S/s
220/132 KV 200 MVA ICT 3 @ BABHLESHWAR	IntraState	20/12/2021	22:45			T	Tripped on Diferrential protection and Declare faulty
220/132 KV 100 MVA ICT 1 @ LONIKAND 2	IntraState	01/03/2022	18:17			T	Differential Protection
220/132-110 KV 100MVA ICT No-02 @ OGLEWADI	IntraState	02/03/2022	17:26	03/03/2022	02:12	T	tripped on differential protection
220/132kV 200MVA ICT-1 @ KOPARGAON	IntraState	03/03/2022	09:38	03/03/2022	13:16	PO	1. For Diagnostic testing of ICT and its allied equipments (Tan Delta testing of ICT Bushing, Winding and CT ₂ s) 2. To attend Hotspot on Y PH HV Bushing
220/132kV 200MVA ICT-2 @ KOPARGAON	IntraState	03/03/2022	09:38	03/03/2022	16:30	PO	For Diagnostic testing of ICT and its allied equipments (Tan Delta testing of ICT Bushing, Winding and CT ₂ s)
220/33KV 50MVA T/F-I @ BRIDGESTONE	IntraState	03/03/2022	11:00	03/03/2022	17:30	EO	for work of attending Hot spot on LV Incomer CB 'R' ph Top clamp 100 μ C, 33kV Flash feeder bus side Isolator clamp 89 μ C and replacement of damaged OD kits of TF LV 33kV LV cables and broken earthing of 33kV Cables due to week earthing 33kV Cable insulation gets damaged and during each 33kV feeder fault cable insulation gets damage so same issue needs to be attended on top priority as only single power transformer available at 220kV Bridgestone Substation.
220/33 KV 50MVA PTR NO 1 @ ALEPHATA	IntraState	03/03/2022	11:56	03/03/2022	13:53	PO	For Diagnostic testing work & general maintenance work
220/33 KV, 50MVA, PTR NO 2 @ ALEPHATA	IntraState	03/03/2022	14:02	03/03/2022	17:40	PO	For Diagnostic testing work & general maintenance work

State Load Despatch Center, Airoli (MSETCL)
Details of Line outages/Trippings for 03/Mar/2022

Statement-VII

Position as on 6.30 Hrs of 04/Mar/2022

Name of Line	Inter State / Intra State	Tripped Date	Tripped Time	Sync. Date	Sync. Time	Outage Type	Reason of Outage
220/33 KV 50 MVA PTR NO 3 @ ALEPHATA	IntraState	03/03/2022	17:48	03/03/2022	19:17	PO	For Diagnostic testing work & general maintenance work
110 KV LINE Outages/Trippings							
WAGHIVALI - MANKHURD	IntraState	04/02/2022	10:30			PO	Construction of 400KV M/C Kharghar-Vikhroli Transmission line along with Dismantling, De- Stringining of existing 110KV Waghivali-Mankhurd and Waghivali-Chembur lines and shfiting these lines on new Multicircuit Towers between Darave to Vashi.
WAGHIVALI - CHEMBUR	IntraState	04/02/2022	10:30			PO	Construction of 400KV M/C Kharghar-Vikhroli Transmission line along with Dismantling, De- Stringining of existing 110KV Waghivali-Mankhurd and Waghivali-Chembur lines and shfiting these lines on new Multicircuit Towers between Darave to Vashi.

HT : Hand Tripping, T : Tripping, PO : Planned Outage, EO : Emergency Outage